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A RARE CASE OF PREGNANCY WITH REFRACTORY IDIOPATHIC THROMBOCYTOPENIC PURPURA

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ABSTRACT Thrombocytopenia is a haematological abnormality encountered frequently during pregnancy. (1) Thrombocytopenia has varied etiology and at times its idiopathic in origin.Idiopathic thrombocytopenic purpura (ITP) is one of the acquired disorders with complex ethology predominantly immune related and is a diagnosis of exclusion. [2,3] ITP can cause life threatening bleeding during intrapartum or post-partum period hence it is essential to be prepared with necessary preventive measures to ensure maternal and foetal safety. Here we are discussing a rare case of Refractory ITP diagnosed for the first time in pregnancy. A 32-year-old G5P2L2A2 with GDM at 35 weeks gestation presented with a low platelet count platelets of 47000/microlitre. First line therapy with steroid and IV immunoglobulins was initiated in consultation with the haematologist but due to inadequate rise in the platelet hence second line drug romiplostim was initiated at 1mcg/kg given subcutaneous route once weekly. She responded well and underwent a preterm elective caesarean section at 36 weeks 2 days and romiplostim was tapered postnatally. Refractory ITP in pregnancy is a rare and challenging condition which requires a multidisciplinary approach for ensuring maternal and neonatal safety.

KEYWORDS : pregnancy, thrombocytopenia, romiplostim, corticosteroids

INTRODUCTION

Thrombocytopenia is a second most frequent haematological abnormality encountered during pregnancy, first one being anemia. [1] The etiology of thrombocytopenia in pregnancy can be categorised into two groups: pregnancy associated causes and causes independent of pregnancy [2].Pregnancy related conditions account for over 90% of thrombocytopenia cases, including Gestational thrombocytopenia(70-80%),pre eclampsia (15-20%),HELLP syndrome (<1%),and acute fatty liver of pregnancy (<1%). Causes unrelated to pregnancy can be congenital or acquired.[2] Idiopathic thrombocytopenic purpura (ITP) is one of the acquired disorders with complex aetiology predominantly immune related and is a diagnosis of exclusion. In ITP, there is immune-mediated destruction of platelets and also due to suppression of platelet release from the megakaryocyte . [3] Here there is a accelerated clearance of platelet coated by IgG anti- platelet antibodies. These antibody coated platelets are subsequently removed following binding to macrophages Fcy receptors, primarily in the spleen. ITP roughly affects 1 in every 1000 to 10000 pregnancies [3].ITP can be classified as primary or secondary to (infections such as HIV, HCV,CMV, Anti phospholipid syndrome, SLE ,drug induced)

There is no definitive test to confirm the diagnosis of ITP. Basically it is a diagnosis of exclusion supported by one or more of the laboratory parameters-

- Severe thrombocytopenia (platelet <50 x 10^9) with normal blood film.
- Steroid responsiveness.
- Positive autoimmune serology [4]

ITP is expected to pose challenges in pregnancy and can cause life threatening bleeding during intrapartum or post-partum period. Hence it is essential to be prepared with necessary preventive measures to ensure maternal and foetal safety. Currently ITP management includes first line therapy of low dose corticosteroids or intravenous immunoglobulin which are found to be effective and safe for both mother and foetus. Splenectomy is reserved for unresponsive cases and only in second trimester , also it carries maternal and fetal risk. Here we present an interesting case of pregnant woman with ITP which did not respond to first line drug therapy .

Objectives

A rare case of Refractory ITP diagnosed for the first time in pregnancy and to discuss the challenges encountered in the management

Methods-Case study

Patient was referred to our tertiary care hospital at 8 months of gestation with persistent low platelet count despite multiple blood and platelet transfusions.

A 32 year old G5P2L2A2 at 35 weeks gestation with cephalic presented with low platelet count (Her blood parameters at admission being - haemoglobin – 9.6g/dl, platelets- 47000/microlitre, total counts – 11.2 x 10^3 / microlitre with a peripheral blood picture of giant platelets,) She was also a case of gestational diabetes mellitus on insulin , with prior uneventful normal vaginal deliveries. She was diagnosed to have low platelet count at 31 weeks for the first time and was treated with platelet transfusions, with no satisfactory response.

On examination, pallor present, uterus size corresponding to 34 weeks of gestation. ultrasound abdomen revealed mild splenomegaly.

Common causes of thrombocytopenia were ruled out (LFTs, LDH, serum vitamin b12, dengue profile, ANA tests for SLE etc) and diagnosis of ITP was established.

First line therapy with steroids was given at 1mg/kg dose for 4 weeks along with 1g stat dose of iv immunoglobulin after consulting with haematologist. However adequate rise in platelet count is not seen hence second line drug romiplostim was initiated at 1mcg/kg given subcutaneous route once weekly. She responded well and at the time of delivery, her platelet counts were 60,000 /microlitre.

Patient underwent a preterm elective caesarean section under general anaesthesia at 36 weeks 2 days POG I/V/O poorly controlled sugars. Intra operatively, 1-pint packed cell volume and 4-pint random donor plasma were transfused.

Postnatally, along with steroids and romiplostim were continued.

Since patient was on immunosuppressant, postoperative injectable antibiotic coverage was extended to 5 days to prevent any puerperal infection.

The patient was advised to follow up with serial platelet counts. She followed up for a period of 6 weeks and slowly all the drugs were tapered off by haematologist once her platelet count was stabilised.

RESULTS

Pregnancy was terminated by preterm elective LSCS, with 1 Pint PCV and 4 Pint RDPs transfusion pre-op, a healthy female baby of 2.6kg born with uneventful intraoperative and post operative course. Baby was initially shifted to neonatal intensive care unit in view of prematurity and episode of hypoglycaemia, and was shifted to mother side on 4th postnatal day.

DISCUSSION

The aim of management of ITP during pregnancy is to maintain a platelet count of >50,000 /microlitre and weekly monitoring of platelet count is required.

When platelet count drops to < 50,000 antenatal corticosteroids are used as first line of management. In case of persistent low platelet count, IVIG is recommended. Platelet transfusion is recommended only if there is evidence of bleeding or platelet count below 10×10^9 or prior to surgery to reduce the risk of bleeding. This strategy of combining steroids, IVIG, and platelet transfusion follows the standard care for severe thrombocytopenia and ensures safety of both mother and foetus [5-12]. Corticosteroids need to be used with caution in cases complicated with gestational diabetes, psychiatric disorders and active infections if any.

Romiplostim is a thrombopoietin receptor agonist used to treat adults and children with ITP. Romiplostim is a FC peptide fusion protein analogue of TPO that increases platelet production by binding to the TPO -R receptor and is administered as a weekly subcutaneous injection (half-life -3.5 days).A study by Audrey Ann et al revealed that Romiplostim crosses blood placental barrier, and excreted in breast milk and found in infant in small amount but did not have significant effect on neonate [13]. Amgen inc. initiated a pregnancy surveillance program (PSP) to collect safety information on pregnancy ,foetal and neonatal outcomes of woman exposed to Romiplastim during pregnancy and the study did not reveal any new or specific safety concerns for mother ,foetus and infants [14].

There is no difference in the prognosis in the foetus whether you opt for normal vaginal delivery or LSCS [2]. The neonate has to be monitored for thrombocytopenia as well [2]. It has been observed in about up to 20% of the babies born to mothers with ITP have mild to moderate thrombocytopenia and should require close monitoring to rule out rare but fatal complications like intracranial haemorrhage [2].

Postnatal management involves close monitoring of patient in consultation with haematologist and adjustment of therapeutic plan based on patients' condition and laboratory results.[2].

CONCLUSION

Refractory ITP in pregnancy is a rare and challenging condition which requires early diagnosis and stepwise therapeutic management with first line and second line drugs. Multidisciplinary approach is needed for preventing complications during pregnancy and to ensure maternal and neonatal safety. Most of ITP cases can be managed effectively using corticosteroid and / or IVIG. Newer modalities like Romiplostim should be used only if there is potential benefit to mother in refractory cases of ITP.

Ethics Statement

The data was obtained from medical records of the patient and informed consent was obtained from the patient.

Author Contribution

All three authors contributed in reviewing and editing.

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Conflict Of Interest

Nil

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